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- A. Differential Display Downstream Primer 7: (SEQ ID NO: 17)
5'TTTTTTTTTTGA3'
- B. Differential Display Upstream Primer 15: (SEQ ID NO: 18)
5'GATCAATCGC3'
- C. 5'RACE Primer 2a: (SEQ ID NO: 19)
5'TAGGACATGCACAGTGTAACTG3'
- D. 5'RACE Primer 3a: (SEQ ID NO: 20)
5'GATTGTGTGGCCACTTCTC3'
- E. 5'RACE Primer 4a: (SEQ ID NO: 21)
5'GACACTCCAGGACTGAAG3'
- F. 5'RACE Anchor Primer: (SEQ ID NO: 22)
5'CUACUACUACUAGGCCACGTCGACTAGTAGCGGIIGGGIIG3'
- G. 5'RACE Universal Amplification Primer: (SEQ ID NO: 23)
5'CUACUACUACUAGGCCACGTCGACTAGTAC3'
- H. 5'LPL Primer: (SEQ ID NO: 24)
5' ACCACCATGGAGAGCAAGCCCTG3'
-start codon of human LPL coding sequence is underlined
- I. 3'LPL Primer: (SEQ ID NO: 25)
5' CCAGTTTCAGCCTGACTTCTTATTC3'
-complement to the termination codon of the LPL coding sequence is underlined
- J. Primer DLIP774: (SEQ ID NO: 26)
5'GGCTGTGGACTCAACGATGTC3'
- K. Primer LLGen2a: (SEQ ID NO: 27)
5'CCGGTGGGTAGGTACATTTTG3'
- L. Hllg-gsp1 primer: 5' GGG GGT GAC TTC CAG CCA GGC TGT G 3'
(nucleotides 772-796 in Fig. 4, SEQ ID NO: 28)
Hllg-gsp2a primer: 5' AAC TCT GAA AGG CAT GCC TGC CCG G 3'
(reverse complement of nucleotides 1053-1077 in Fig. 4, SEQ ID NO:29)
G3PDH 5' primer: 5' TGA AGG TCG GAG TCA ACG GAT TTG GT 3'
(SEQ ID NO: 30)
G3PDH 3' primer: 5' CAT GTG GGC CAT GAG GTC CAC CAC 3'
(SEQ ID NO: 31)

FIG. 1

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GAATTCGGCTTGATCAATCGCTTCAAAAAGGGGATCTGTCTGAGCTGCCGCAAGAACCGTTGTAATAG
 CATTGCTACAATGCCAAGAAATGAGGAACAAGAGGAACAGCAAAATCTACCTAAAAACCCGGGCAG
 E F G L I N R F K K G I C L S C R K N R C N S
 GCCTTCAGAGGTAACTTCAGTCCCTGGAGTGTCCCTGAGGAAGGCCCTTAATACCTCCTCTTAAT
 I G Y N A K K M R N K R N S K M Y L K T R A
 ACCATGCTGCAGAGCAGGACATCCTAGCCCAGGAGAAAGTGGCCAGCACAAATCCAATCAAATCGTTG
 Coding region
 P F R G N L Q S L E C P . G R P L I P P S .
 TCAGATTACACTGTGCATGTCTAGGAAAGGGAATCTTTACAAATAACAGTGTGGACCCCTCAAAA
 Y H A A E Q G T S . P R R S G Q H N P I K S L
 AAAAAAAGCCGAATTC 367
 I R L H C A C P R R K G N L Y K I N S V D P S K
 K K K S R I

FIG. 2

GAATTCGGCTTCTACTACTAGGCCACGGCTGCCTAGTACGGGGGGGGGGGGGGTTCAGCGAG

TCCTTGCCTCCCGGGCTCAGGACGAGGCGAGATCTCGTTCTGGGGCAAGCCGTTGACACTCGCTCC

R I R L L L L L G H A S P S T G G G G V S E
CCGGGCTCGTGCGCCAAGTTTTCATTTCCACCTTCTCTGCCTCCAGTCCCCAGCCCTGGCCG

S L P P G G S G R G Q I S F W G K P L T L A P
AGAGAAGGTCTTACCGGCGGGATTGCTGGAACACCAAGAGGTGTTTGTGTTTTTAAACTTCT

P G S V P P S F H F P P S L P P V P Q P L A
GAGGGGTGTGGGGCAGGATGAGCAACTCCGTTCCCTCTGCTCTGTTTCTGGAGCCTCTGCTATTG

E R R V L P A G I A G N T K R W F L F K T S
CTTTGCTGGGGAGCCCCGTACCTTTTGGTCCAGAGGACGGCTGGAAGATAAGCTCCACAAACCCA

———— Coding region: 5'RACE extension ————
E G V W R G R M S N S V P L L C F W S L C Y C
AGACTGAGGTCAAACCATCTGTGAGTTTAACCTCCGACCTCCAAGGACCCAGAGCATGAAGGATGC

———— Coding region: 5'RACE extension ————
F A A G S P V P F G P E G R L E D K L H K P
TACCTCTCGTGGCCACAGCCAGCCCTTAGAGAGACTGCAGTTTCAACATGACAGCTAAACCTTTT

———— Coding region: 5'RACE extension ————
Q T E V K P S V R F N L R T S K D P E H E G C
CGGATGGACGATGAGCGGTATCTTTGAAAACCTGGCTGCACAAACTCGTGTGAGCCCTGCACACAAGAG

———— Coding region: 5'RACE extension ————
Y L S V G H S Q P L E D C S F N M T A K T F F
AGAAAGACGCCAATGTAGTTGTGTTGACTGGCTCCCTGGCCACCAGCTTTACAGGATGCGGTC

----- Coding region:5'RACE extension -----
G W T M S G I F E N W L H K L V S A L H T R
AGGTGGTGGACACAGCATGCCAGGATGCTCGACTGGCTGCAGGAGAAGGACGATTTTCTCTCGG

----- Coding region:5'RACE extension -----
E K D A N V V V D W L P L A H Q L Y T D A V
GAATGTCCACTTGATCGGCTACAGCCTCGGAGCGCACGTGGCCCGTATGCAGGCAACTTCGTGAAAG

----- Coding region:5'RACE extension -----
R V V G H S I A R M L D W L Q E K D D F S L G
GCCGAATCACAGGTTGGATCCTGCCGGGCCCATGTTGAAGGGCCGACATCCACAAGAGGCTCTCT

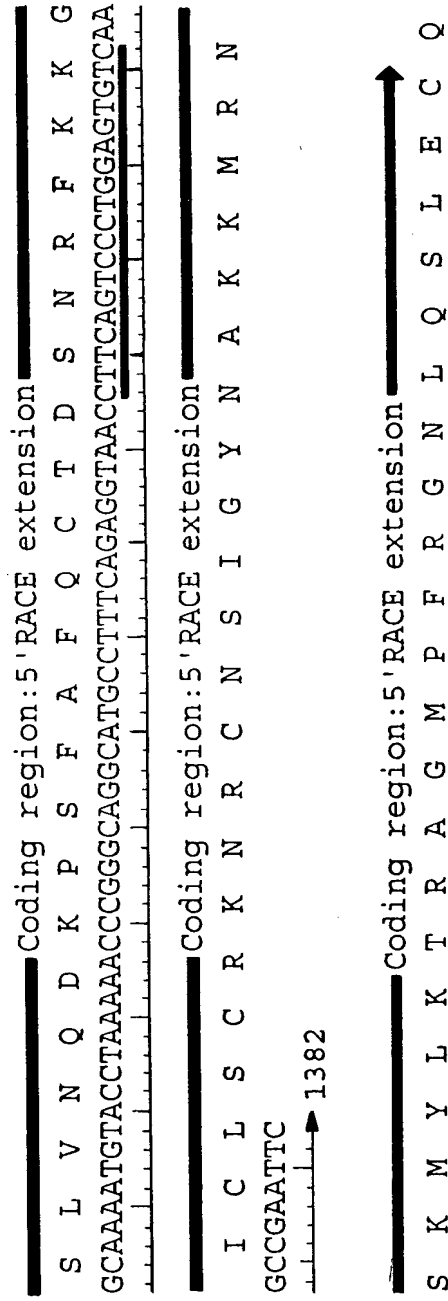
----- Coding region:5'RACE extension -----
N V H L I G Y S L G A H V A G Y A G N F V K
CCGGACGATGCAGATTTTGTGGATGTCCTCCACACCTACACGCGTTCCTTCGGCTTGAGCATTGGTAT

----- Coding region:5'RACE extension -----
G R I T G L D P A G P M F E G A D I H K R L S
TGTGGCCACATTGACATCTACCCCAATGGGGTGACTTCCAGCCAGGCTGTGGACTCAACGATGTCT

----- Coding region:5'RACE extension -----
P D D A D F V D V L H T Y T R S F G L S I G I
TGGGATCAATTGCATATGGAACAATCACAGAGGTGGTAAATGTGAGCATGAGCGAGCCGTCCACCTC

----- Coding region:5'RACE extension -----
V G H I D I Y P N G G D F Q P G C G L N D V
TCTCTGGTGAATCAGGACAAGCCGAGTTTTCCTTCAGTGCACTGACTCCAATCGCTTCAAAAAGGG

----- Coding region:5'RACE extension -----
L G S I A Y G T I T E V V K C E H E R A V H L
GATCTGTGAGCTGCCGAAGAACC GTTGTAAATAGCATTTGGCTACAATGCCAAGAAAATGAGGAACA



A E F

FIG. 3C

GAATTCGCGGCCGCGTTCGACGGCGGCTCAGGACGAGGGCAGATCTCGTTCTGGGGCAAGCCG
 TTGACACTCGCTCCCTGCCACCGCCCGGGCTCCGTGCCGCCAAGTTTTTCATTTTCCACCTTCT
 CTGCCTCCAGTCCCCCAGCCCCCTGGCCGAGAGAAGGGTCTTACCGGCCGGGATTGCTGGAAA
 CACCAAGAGGTGGTTTTTTGTTTTTTTAAACTTCTGTTTCTTGGGAGGGGGTGTGGCGGGGAGG
ATGAGCAACTCCGTTCCCTCTGCTCTGTTTTCTGGAGCCTCTGCTATTGCTTTGCTGCGGGGAGCC
 CCGTACCTTTTGGTCCAGAGGGACGGCTGGAAGATAAGCTCCACAAACCCAAAGCTACACAG
 ACTGAGGTCAAACCATCTGTGAGGTTTAACTCCGCACCTCCAAGGACCCAGAGCATGAAGG
 ATGCTACCTCTCCGTCCGCCACAGCCAGCCCTTAGAAGACTGCAGTTTCAACATGACAGCTAA
 AACCTTTTTTCATCATTACGGATGGACGATGAGCGGTATCTTTGAAAAGTGGCTGCACAACT
 CGTGTCAGCCCTGCACACAAGAGAGAAAGACGCCAATGTAGTTGTGGTTGACTGGCTCCCCCT
 GGCCACCAGCTTTACACGGATGCGGTCAATAATACCAGGGTGGTGGGACACAGCATTGCCA
 GGATGCTCGACTGGCTGCAGGAGAAGGACGATTTTTCTCTCGGGAATGTCCACTTGATCGGCT
 ACAGCCTCGGAGCGCACGTGGCCGGGTATGCAGGCAACTTCGTGAAAGGAACGGTGGGCCGA
 ATCACAGGTTTGGATCCTGCCGGGCCCATGTTTGAAGGGCCGACATCCACAAGAGGCTCTCT
 CCGGACGATGCAGATTTTGTGGATGTCTCCACACCTACACGCGTTCCTTCGGCTTGAGCATT
 GGTATTAGATGCCTGTGGGCCACATTGACATCTACCCCAATGGGGGTGACTTCCAGCCAGGC
 TGTGGACTCAACGATGTCTTGGGATCAATTGCATATGGAACAATCACAGAGGTGGTAAAATGT
 GAGCATGAGCGAGCCGTCCACCTCTTTGTTGACTCTCTGGTGAATCAGGACAAGCCGAGTTTT
 GCCTTCCAGTGCACCTGACTCCAATCGCTTCAAAAAGGGGATCTGTCTGAGCTGCCGCAAGAAC
 CGTTGTAATAGCATTGGCTACAATGCCAAGAAAATGAGGAACAAGAGGAACAGCAAAATGTA
 CCTAAAAACCCGGGAGGCATGCCTTTTACAGAGTTTACCATTATCAGATGAAAATCCATGTCTT
 CAGTTACAAGAACATGGGAGAAATTGAGCCACCTTTTACGTCACCCTTTATGGCACTAATGC
 AGATTCCCAGACTCTGCCACTGGAAATAGTGGAGCGGATCGAGCAGAATGCCACCAACA
 CTTTCTTGGTCTACACCGAGGAGGACTTGGGAGACCTCTTGAAGATCCAGCTCACCTGGGAGG
 GGGCCTCTCAGTCTTGGTACAACCTGTGGAAGGAGTTTCGCAGCTACCTGTCTCAACCCCGCA
 ACCCCGACGGGAGCTGAATATCAGGCGCATCCGGGTGAAGTCTGGGGAAACCCAGCGGAAA
 CTGACATTTTGTACAGAAGACCCTGAGAACACCAGCATATCCCCAGGCCGGGAGCTCTGGTTT
 CGCAAGTGTGCGGATGGCTGGAGGATGAAAAACGAAACAGTCCCACTGTGGAGCTTCCC
TGAGGGTGCCCGGGCAAGTCTTGCCAGCAAGGCAGCAAGACTTCCTGCTATCCAAGCCCATG
 GAGGAAAGTTACTGCTGAGGACCCACCCAATGGAAGGATTCTTCTCAGCCTTGACCCTGGAGC
 ACTGGGAACAACCTGGTCTCCTGTGATGGCTGGGACTCCTCGCGGGAGGGGACTGCGCTGCTAT
 AGCTCTTGCTGCCTCTCTTGAATAGCTCTAACTCCAAACCTCTGTCCACACCTCCAGAGCA
 CCAAGTCCAGATTTGTGTGTAAGCAGCTGGGTGCCTGGGGCCTCTCGTGCACACTGGATTGGT
 TTCTCAGTTGCTGGGCGAGCCTGTACTCTGCCTGACGAGGAACGCTGGCTCCGAAGAGGCCCT
 GTGTAGAAGGCTGTCAGCTGCTCAGCCTGCTTTGAGCCTCAGTGAGAAGTCCTTCCGACAGGA
 GCTGACTCATGTCAGGATGGCAGGCCTGGTATCTTGCTCGGGCCCTGGCTGTTGGGGTTCTCAT
 GGGTTGCACTGACCATACTGCTTACGTCTTAGCCATTCCGTCCTGCTCCCCAGCTCACTCTCTG
 AAGCACACATCATTGGCTTTTCTATTTTTCTGTTTCAATTTTTTAATTGAGCAAATGTCTATTGAAC
 ACTTAAATTAATTAGAATGTGGTAATGGACATATTACTGAGCCTCTCCATTGGAACCCAGTG
 GAGTTGGGATTTCTAGACCCTCTTTCTGTTTGGATGGTGTATGTGTATATGCATGGGGAAAGGC
 ACCTGGGGCCTGGGGGAGGCTATAGGATATAAGCAGTCGACGCGGCCGCGAATTC

FIG. 4

MSNSVPLLCFWSLCYCFAAGSPVPFGPEGRLEDKLHKPKATQTEVKPSVRFNLRTSKDPEHEGCY
LSVGHSQPLEDCSFNMTAKTFFIIHGWTMSGIFENWLHKLVSALHTREKDANVVVVDWLPLAHQL
YTDVNNTRVVGHSIARMLDWLQEKDDFSLGNVHLIGYSLGAHVAGYAGNFVKGTVGRITGLDP
AGPMFEGADIAHKRLSPDDADFVDVLHTYTRSFGLSIGIQMPVGHIDIYPNGGDFQPGCGLNDVLGSI
AYGTTTEVVKCEHERAVHLFVDSL VNQDKPSFAFQCTDSNRFKKGICLSCKNRNCNSIGYNAKKM
RNKRNSKMYLKTRAGMPFRVYHYQMKIHVFSYKNMGEIEPTFYVTLYGTNADSQTLPLEIVERIE
QNATNTFLVYTEEDLGDLLKIQLTWEGASQSWYNLWKEFRSYLSQPRNPGRELNIRRI RVKSGETQ
RKLTFCTEDPENTSISP GRELWFRKCRDGWRMKNETSPTVELP

FIG. 5

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| EL | ATG | AGC | AAC | TCC | GTT | CCT | CTG | CTC | TGT | TTC | TGG | AGC | CTC | TGC | TAT | TGC | TTT | GCT | GCG | GGG | AGC | CCC | GTA |
| LPL | M | S | N | S | V | P | L | L | C | F | W | S | L | C | Y | C | F | A | A | G | S | P | V |
| HL | M | E | S | K | A | L | L | V | - | - | - | - | - | - | - | - | - | - | L | T | L | A | V |
| PL | M | D | T | S | P | - | - | L | C | F | S | I | L | V | V | L | C | I | F | I | Q | S | S |
| | M | L | P | L | W | T | L | S | L | L | L | G | A | V | A | G | K | E | V | C | Y | E | R |
| EL | CCT | TTT | GGT | CCA | GAG | GGA | CGG | CTG | GAA | GAT | AAG | CTC | CAC | AAA | CCC | AAA | GCT | ACA | CAG | ACT | GAG | GTC | |
| LPL | P | F | G | P | E | G | R | L | E | D | K | L | H | K | P | K | A | T | Q | T | E | V | 27 |
| HL | W | L | Q | S | L | T | A | S | R | G | G | V | A | A | A | D | Q | R | R | D | F | I | 8 |
| PL | A | L | G | Q | S | L | K | P | E | P | F | G | R | R | A | Q | A | V | E | T | N | K | 21 |
| | L | G | C | F | S | D | D | S | P | W | S | G | I | T | E | R | P | L | H | I | L | P | 29 |
| EL | AAA | CCA | TCT | GTG | AGG | TTT | AAC | CTC | CGC | ACC | TCC | AAG | GAC | CCA | GAG | CAT | GAA | GGA | TGC | TAC | CTC | TCC | GTC |
| LPL | K | P | S | V | R | F | N | L | R | T | S | K | D | P | E | H | E | G | C | Y | L | S | V |
| HL | D | I | E | S | K | F | A | L | R | L | P | E | D | T | A | E | D | T | H | L | I | P | |
| PL | T | L | H | E | M | K | T | R | F | L | L | F | G | E | T | N | Q | G | Q | I | R | I | |
| | W | S | P | K | D | V | N | T | R | F | L | L | Y | T | N | E | N | P | N | N | F | Q | E |
| EL | GGC | CAC | AGC | CAG | CCC | TTA | GAA | GAC | TGC | AGT | TTC | AAC | ATG | ACA | GCT | AAA | ACC | TTT | - | - | - | - | |
| LPL | G | H | S | Q | P | L | E | D | C | S | F | N | M | T | A | K | T | F | - | - | - | - | 70 |
| HL | G | V | A | E | S | V | A | T | C | H | F | N | H | S | S | K | T | F | M | - | - | - | 51 |
| PL | N | H | P | D | T | L | Q | E | C | G | F | N | S | S | L | P | L | V | M | - | - | - | 64 |
| | V | A | A | D | S | S | S | I | S | G | S | N | F | K | T | N | R | K | T | R | I | 74 | |
| EL | ATT | CAC | GGA | TGG | ACG | ATG | AGC | GGT | ATC | TTT | GAA | AAC | TGG | CTG | CAC | AAA | CTC | GTG | TCA | GCC | CTG | CAC | ACA |
| LPL | I | H | G | W | T | M | S | G | G | I | F | E | W | L | V | K | L | V | S | A | L | H | T |
| HL | I | H | G | W | T | V | T | G | M | V | Y | E | W | I | P | Q | M | V | A | A | L | Y | K |
| PL | I | H | G | W | T | V | D | K | V | E | L | N | L | A | N | V | C | K | A | - | N | L | S |
| | I | H | G | F | I | D | K | K | E | E | E | W | L | A | N | V | C | K | - | - | - | - | F |
| EL | AGA | GAG | AAA | GAC | GCC | | | | AAT | GTA | GTT | GTG | GAT | TGG | CTC | CCC | CTG | GCC | CAC | CAG | CTT | TAC | |
| LPL | - | - | A | D | A | - | - | - | N | V | V | V | D | W | L | P | S | A | H | Q | L | Y | 113 |
| HL | Q | P | A | P | S | - | - | - | N | V | I | L | D | W | L | S | R | A | E | E | H | Y | 94 |
| PL | K | - | V | E | S | - | - | - | N | V | G | C | D | W | K | T | G | D | D | T | G | Y | 108 |
| | | | | | | | | | | | | | | | | | | | | | | 115 | |

FIG. 6A

| | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| EL | ACG | GAT | GCG | GTC | AAT | AAT | ACC | AGG | GTG | GTG | GGA | CAC | AGC | ATT | GCC | AGG | ATG | CTC | GAC | TGG | CTG | CAG | GAG |
| LPL | | | | | N | N | T | R | V | V | G | H | S | I | A | R | M | L | D | W | L | Q | E |
| HL | | | | | G | Y | T | K | L | L | G | Q | D | V | A | R | F | I | N | W | M | E | E |
| PL | | | | | R | Q | T | R | I | I | G | K | E | V | A | A | L | L | R | W | L | E | E |
| | | | | | N | N | I | R | V | V | G | A | E | V | A | Y | F | V | E | F | L | Q | S |
| | | | | | Q | | | | | | | | | | * | | | | | | | | |
| EL | AAG | GAC | GAT | TTT | TCT | CTC | GGG | AAT | GTG | CAC | TTG | ATC | GGC | TAC | AGC | CTC | GGA | GCG | CAC | GTG | GCC | GGG | |
| LPL | | | | | S | L | G | N | V | H | L | L | G | Y | S | L | G | A | H | V | A | G | 158 |
| HL | | | | | P | L | D | N | V | H | L | L | G | Y | S | L | G | A | H | A | A | G | 139 |
| PL | | | | | S | R | S | H | V | H | L | L | G | Y | S | L | G | A | H | V | S | G | 153 |
| | | | | | S | P | S | N | V | H | V | I | G | H | S | L | G | A | H | A | A | G | 160 |
| | | | | | S | | | | | | | | | | | | | * | | | | | |
| EL | TAT | GCA | GGC | AAC | TTC | GTG | AAA | GGA | ACG | | | | GTG | GGC | CGA | ATC | ACA | GGT | TTG | GAT | CCT | GGG | CCC |
| LPL | | | | | F | V | K | G | T | - | - | - | V | G | R | I | T | G | L | D | P | G | P |
| HL | | | | | L | T | N | K | - | - | K | K | V | N | R | I | T | G | L | D | P | G | P |
| PL | | | | | S | I | G | G | T | T | - | - | I | G | R | I | T | G | L | D | P | G | P |
| | | | | | R | T | N | N | T | T | | | I | G | R | I | T | G | L | D | P | G | P |
| | | | | | R | | | | | | | | I | | | | | | | | | | |
| EL | ATG | TTT | GAA | GGG | GCC | GAC | ATC | CAC | AAG | AGG | CTC | TCT | CCG | GAC | GAT | GCA | GAT | TTT | GTG | GAT | GTC | CTC | |
| LPL | | | | | A | D | I | H | K | R | L | L | S | P | D | A | D | F | V | D | V | L | 201 |
| HL | | | | | Y | E | A | P | S | R | L | L | S | P | D | A | D | F | V | D | V | L | 182 |
| PL | | | | | Q | P | E | L | V | R | L | L | S | P | D | A | D | F | V | D | V | I | 198 |
| | | | | | | | | | | | | | D | P | S | A | K | F | V | D | V | I | 203 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| EL | CAC | ACC | TAC | ACG | CGT | TCC | TTC | | | GGC | TTG | AGC | ATT | GGT | ATT | CAG | ATG | CCT | GTG | GGC | CAC | ATT | GAC |
| LPL | | | | | T | S | F | - | - | G | L | L | I | G | I | Q | M | P | V | G | H | I | D |
| HL | | | | | T | G | S | P | - | G | R | S | I | G | I | Q | K | P | V | G | H | V | D |
| PL | | | | | T | E | H | M | - | G | L | S | G | G | I | K | Q | P | I | G | H | Y | D |
| | | | | | T | P | I | V | P | N | L | L | F | F | M | S | Q | V | V | G | H | L | D |
| | | | | | A | | | | | | | | | | | | | | | | | | |
| EL | ATC | TAC | CCC | AAT | GGG | GGT | GAC | TTC | CAG | CCA | GGC | TGT | GGG | CTC | AAC | GAT | GTC | TTG | GGA | TCA | ATT | GCA | |
| LPL | | | | | N | G | D | F | Q | P | G | C | G | L | N | D | V | L | G | S | I | A | 244 |
| HL | | | | | N | G | T | F | Q | P | G | C | N | I | G | E | A | I | R | V | I | A | 226 |
| PL | | | | | N | G | S | F | Q | P | G | C | H | F | L | E | L | Y | R | H | I | A | 242 |
| | | | | | N | G | V | E | M | P | G | C | K | K | I | I | L | S | Q | I | V | D | 248 |
| | | | | | N | G | | | | | | | | | N | | | | | | | | |

FIG. 6B

| | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| EL | ATC | GAG | CAG | AAT | GCC | ACC | AAC | ACC | TTC | CTG | GTC | TAC | ACC | GAG | GAG | GAC | TTG | AAG | ATC |
| LPL | | E | Q | N | A | T | N | T | F | L | V | Y | T | E | D | L | L | K | I |
| HL | | S | T | N | K | S | Y | S | F | L | I | Y | L | V | D | L | M | L | |
| PL | | S | H | N | K | S | Y | S | F | L | I | Y | L | V | D | L | M | I | V |
| | | S | H | N | K | S | Y | S | F | L | I | Y | L | V | D | L | M | I | V |
| EL | CAG | CTC | ACC | TGG | GAG | GGG | GCC | TCT | CAG | TCT | TGG | TAC | AAC | CTG | TGG | AAG | GAG | TAC | CTG |
| LPL | | L | T | W | E | G | A | S | Q | S | W | Y | N | L | W | K | E | Y | L |
| HL | | L | K | W | K | S | D | S | Y | F | S | W | S | D | W | W | S | F | A |
| PL | | F | K | W | E | N | S | A | V | W | A | N | V | W | D | T | V | I | P |
| | | F | I | W | Y | N | N | V | I | N | - | - | - | - | - | - | - | - | 409 |
| EL | TCT | CAA | CCC | CGC | AAC | CCC | GGA | CGG | GAG | CTG | AAT | ATC | AGG | CGC | ATC | CGG | GTG | AAG | CAG |
| LPL | | Q | P | R | N | P | G | R | E | L | N | I | R | R | I | S | V | T | Q |
| HL | | I | K | - | - | - | - | - | - | - | - | - | - | - | - | A | V | T | Q |
| PL | | W | T | G | P | R | H | S | G | L | V | L | K | T | A | A | V | T | Q |
| | | - | T | L | P | R | - | - | - | V | G | A | S | K | I | T | N | G | K |
| EL | CGG | AAA | CTG | ACA | TTT | TGT | ACA | GAA | GAC | CCT | GAG | AAC | ACC | AGC | ATA | TCC | CCA | GGC | CTC |
| LPL | | K | L | V | T | C | C | E | D | P | E | N | T | S | I | S | P | G | L |
| HL | | K | V | I | F | C | S | R | E | K | V | S | H | L | Q | K | G | P | A |
| PL | | Q | M | T | F | C | S | E | N | T | D | D | L | L | L | R | P | T | K |
| | | Q | F | N | F | C | S | P | E | T | - | - | - | - | V | R | E | L | I |
| EL | TTT | CGC | AAG | TGT | CGG | GAT | GGC | TGG | AGG | ATG | AAA | AAC | ACC | AGT | CCC | ACT | GTG | GAG | CTT |
| LPL | | R | K | C | R | D | G | W | R | M | K | N | E | T | P | T | V | E | L |
| HL | | F | V | C | H | D | K | S | L | N | K | K | S | G | - | - | - | - | 482 |
| PL | | F | V | C | E | I | K | S | K | T | S | K | R | K | I | R | - | - | 448 |
| | | L | T | C | - | P | K | S | K | T | S | K | R | K | I | R | - | - | 477 |
| | | P | - | C | - | I | K | S | K | T | S | K | R | K | I | R | - | - | 449 |

FIG. 6D

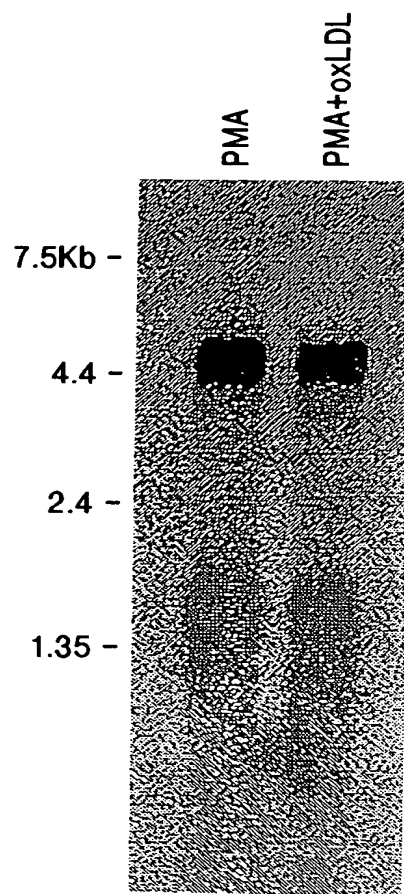


FIG. 7



FIG. 8

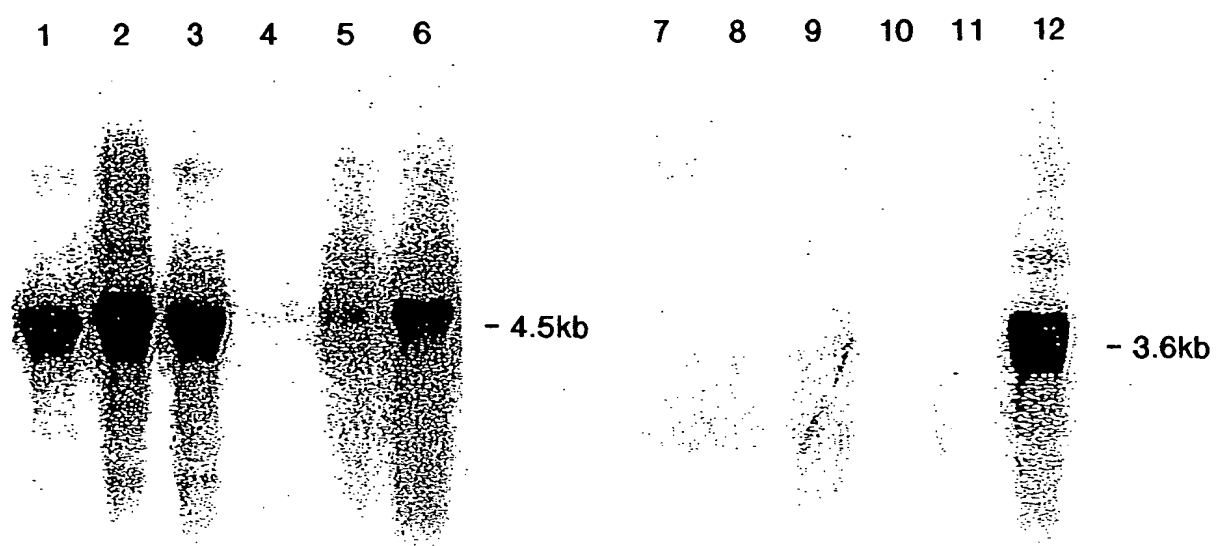


FIG. 9

GPEGRLFDKLHKPKATC
MSNSVPLLCFWSLCYCFAGSPVPFGPEGRLEDKLHKPKATQTEVKPSVRFNLRSTSKDPEHEGCYL
SVGHSQPLEDCSFNMTAKTFFIIHGWTMSGIFENWLHKLVSALHTREKDNVVDWLPPLAHQLY
TDAVNNTRVVGHSIARMLDWLQEKDDFSLGNVHLIGYSLGAHVAGYAGNFVKGTVGRITGLDPA
GPMFEGADIAHKRLSPDDADFVDVLHTYTRSFGLSIGIQMPVGHIDIYPNGGDFQPGCCGLNDVLGSIA
YGTTEVVKCEHERAVHLFVDSLVDKPSFAFQCTDSNRFKKGICLSCKNRCNSIGYNKKMR
NKRNSKMYLKTRAGMPFRVYHYQMKIHVFSYKNMGEIEPTFYVTLYGTNADSQTLPLEIVERIEQ
NATNTFLVYTEEDLGDLLKIQLTWEGASQSWYNLWKEFRSYLSQPRNPGRELNIRIRVKSGETQR
KLTFCTEDPENTSI SPGRELWFRKCRDGRMKNETSPTVELP

FIG. 10

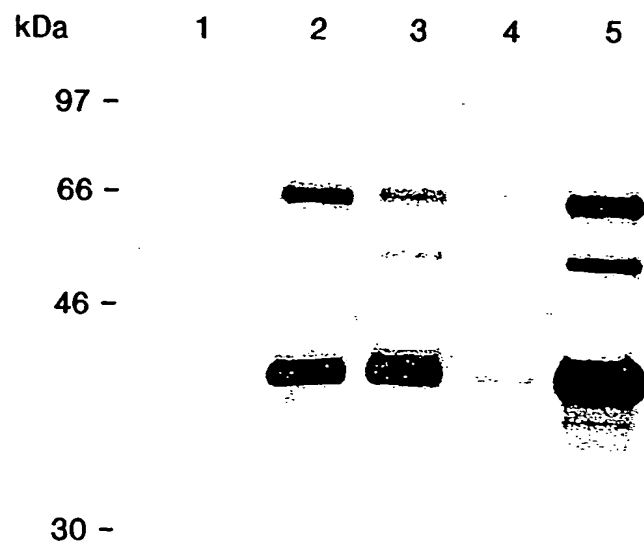


FIG. 11

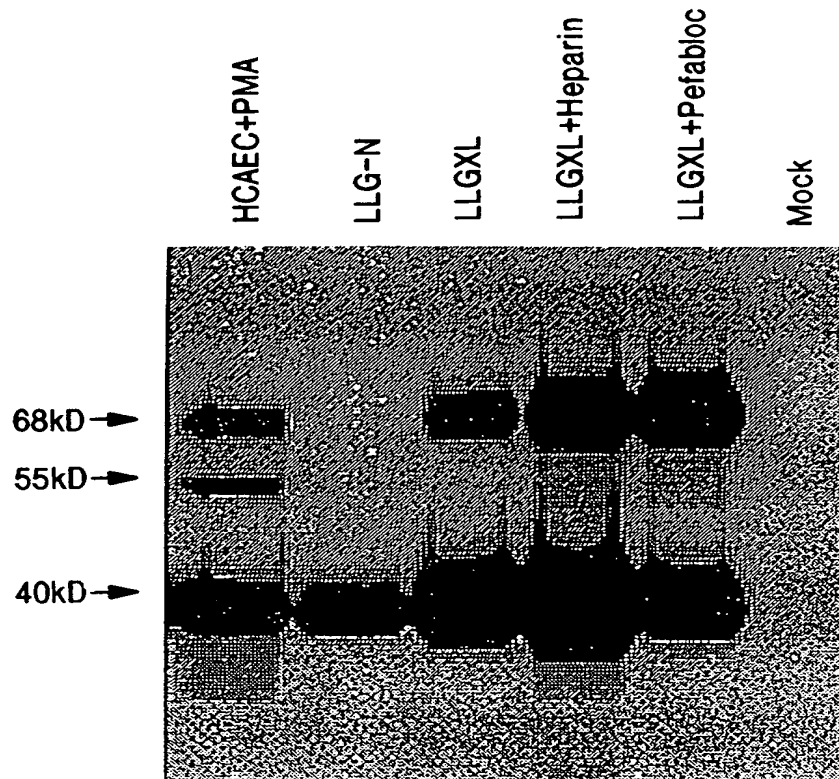
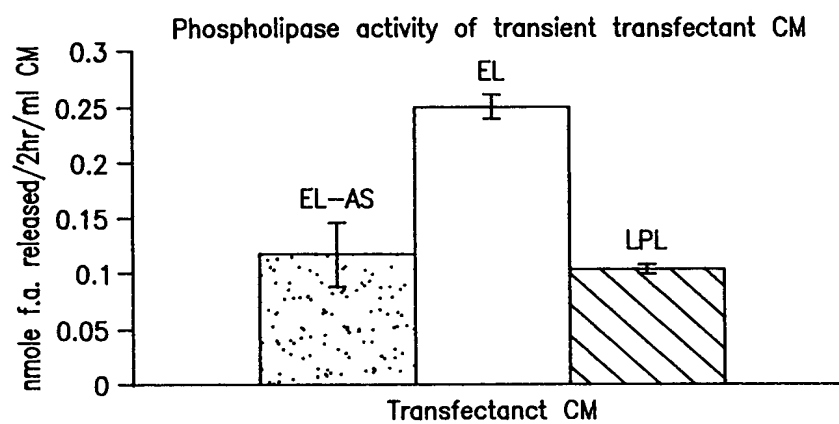
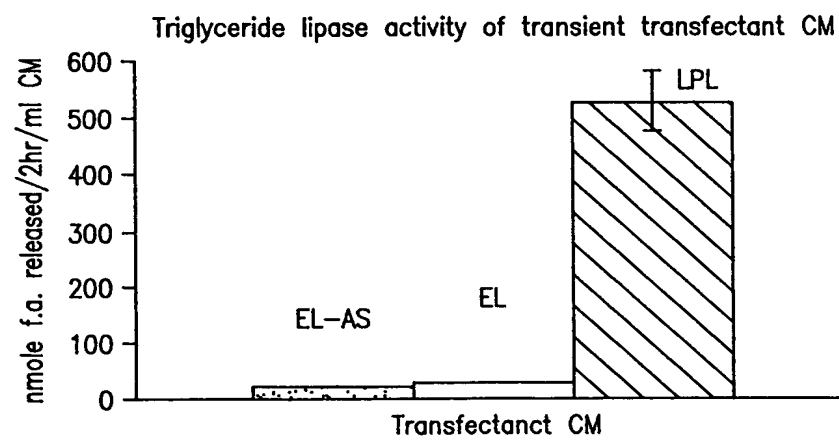


FIG. 12

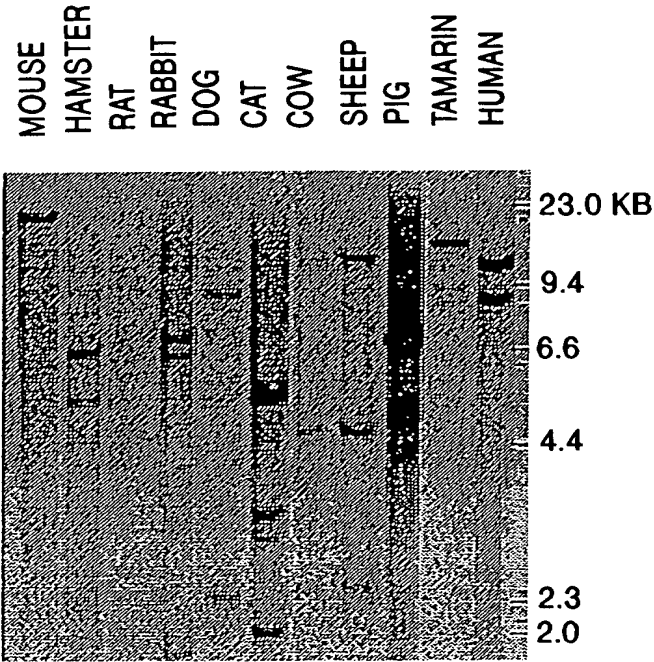
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|-----|-----|-----|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 | 20 | 30 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | T | T | G | G | A | T | C | A | A | T | T | G | C | A | T | A | T | C | A | C | A | G | A | G | G | T | G | G | T | A | A | | | | | | | | | | |
| 1 | C | T | G | G | A | T | C | C | A | T | C | G | C | A | T | C | G | C | G | A | G | G | T | G | G | T | G | A | | | | | | | | | | | | | |
| | | 50 | 60 | 70 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | A | A | T | G | T | G | A | G | C | A | T | G | A | G | C | C | G | T | C | C | A | C | C | T | T | T | G | T | T | G | A | C | T | C | | | | | | | |
| 41 | A | G | T | G | C | G | A | G | C | A | T | G | A | G | C | G | T | G | C | A | T | C | T | C | T | T | T | G | T | G | A | C | T | C | | | | | | | |
| | | 90 | 100 | 110 | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | T | C | T | G | G | T | G | A | A | T | C | A | G | G | A | C | A | A | G | C | C | G | A | G | T | T | T | G | C | C | T | T | C | C | A | G | T | G | C | | |
| 81 | C | C | T | G | G | T | G | A | A | C | C | A | G | G | A | C | A | A | G | C | C | G | A | G | C | T | T | T | G | C | C | T | T | C | C | A | G | T | G | C | |
| | | 130 | 140 | 150 | 160 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | A | C | T | G | A | C | T | C | C | A | A | T | C | G | C | T | T | C | A | A | A | A | A | A | G | G | G | A | T | C | T | G | T | C | T | G | A | G | C | T | |
| 121 | A | C | A | G | A | C | T | C | C | A | A | C | C | G | T | T | C | A | A | A | A | A | A | A | G | G | A | T | C | T | G | T | C | T | C | T | C | A | G | C | T |
| | | 170 | 180 | 190 | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 161 | G | C | C | G | C | A | A | G | A | A | C | C | G | T | T | G | T | A | A | T | A | G | C | A | T | T | G | G | C | T | A | C | A | A | T | G | C | C | A | A | |
| 161 | G | C | C | G | G | A | A | G | A | A | C | C | G | C | T | G | T | A | A | C | G | G | C | A | T | C | G | G | C | T | A | C | A | A | T | G | C | T | A | A | |
| | | 210 | 220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 201 | G | A | A | A | T | G | A | G | G | A | A | C | A | A | G | A | G | G | A | A | C | A | G | C | | | | | | | | | | | | | | | | | |
| 201 | G | A | A | G | A | C | G | A | G | A | A | T | A | A | G | A | G | G | A | A | C | A | C | C | | | | | | | | | | | | | | | | | |

LLG7742A
RLLG.SEQLLG7742A
RLLG.SEQLLG7742A
RLLG.SEQLLG7742A
RLLG.SEQLLG7742A
RLLG.SEQLLG7742A
RLLG.SEQ

FIG. 13

**FIG. 14****FIG. 15**

LLG



LPL

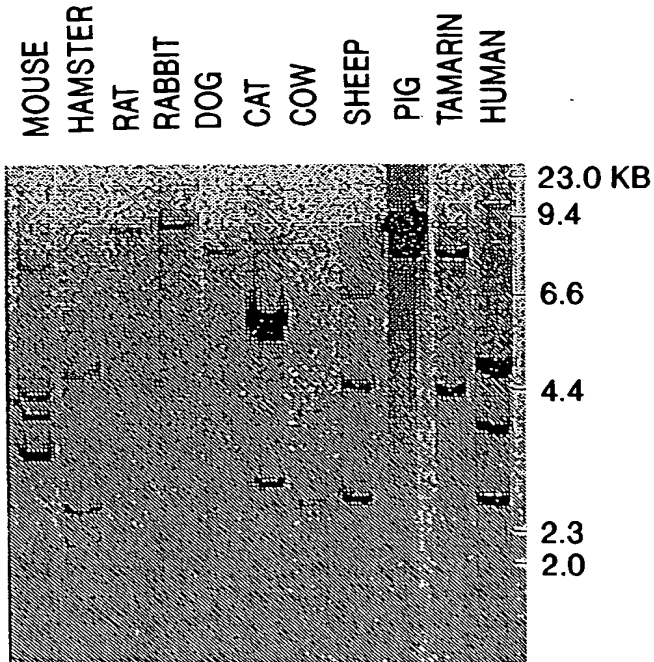


FIG. 16

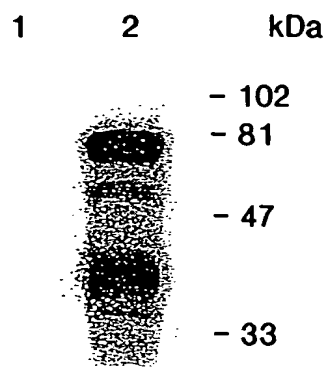
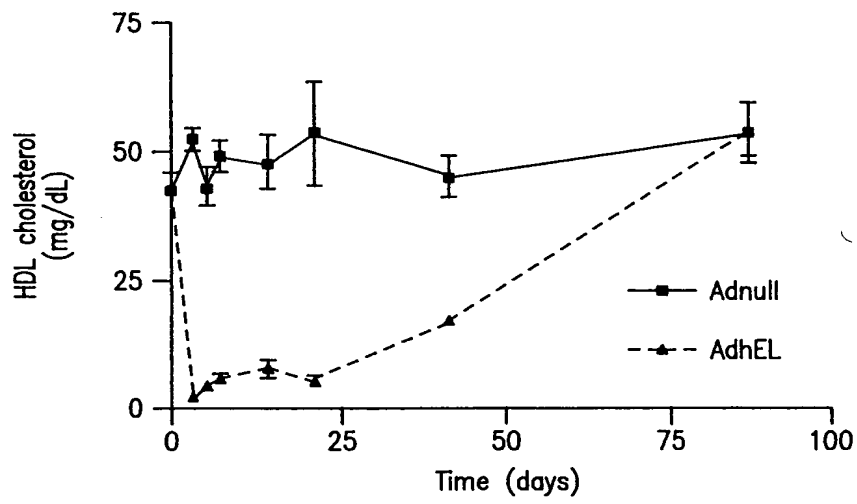


FIG. 17

**FIG. 18**

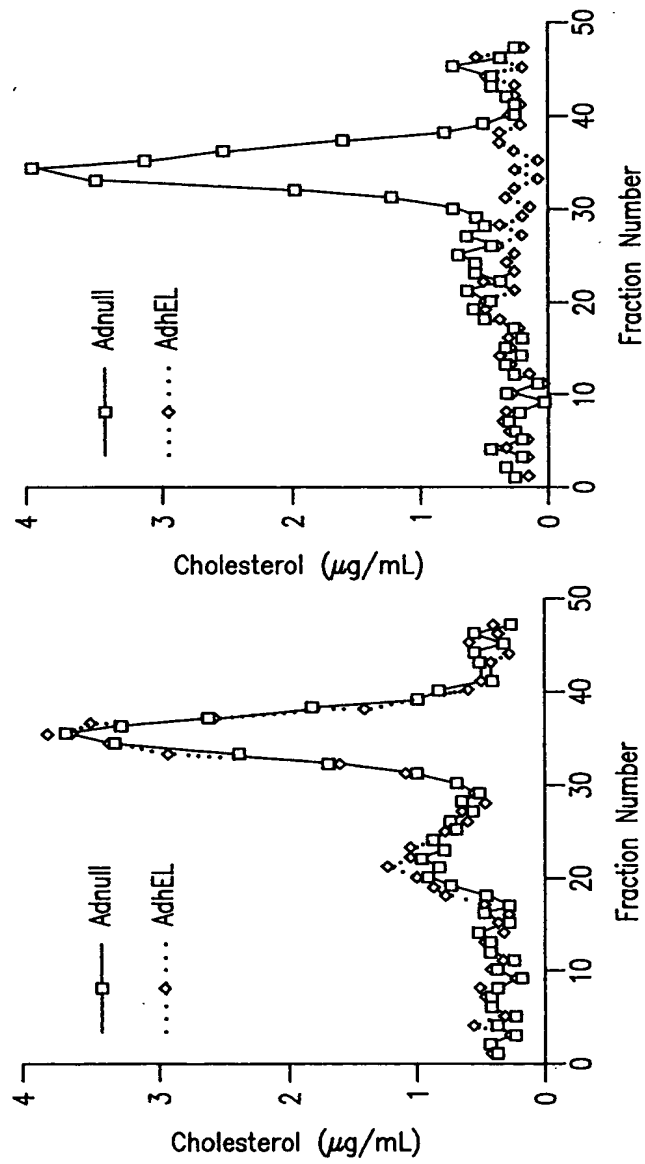


FIG. 19

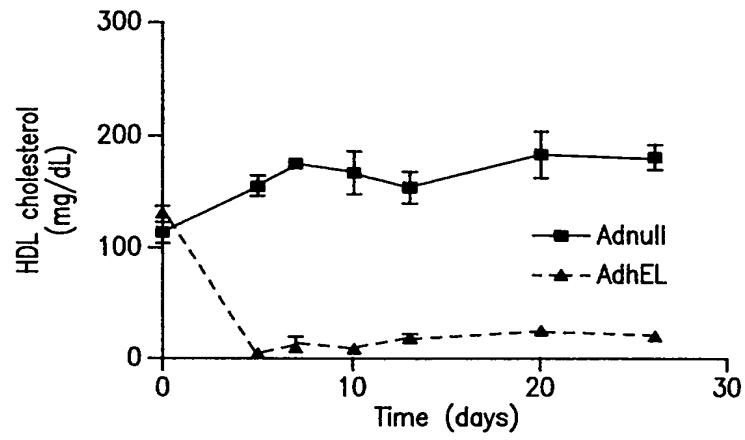


FIG. 20

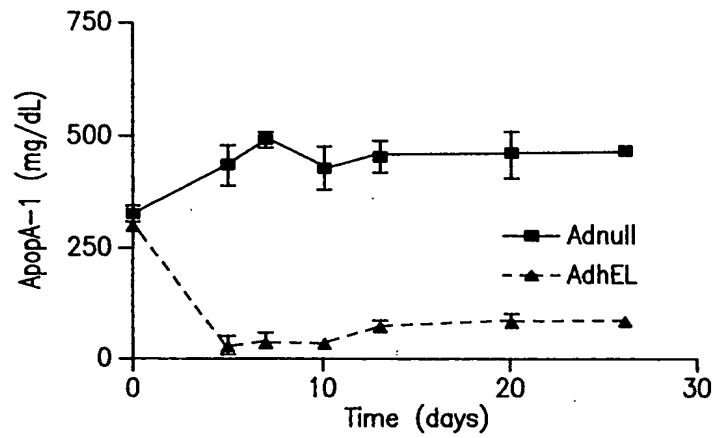
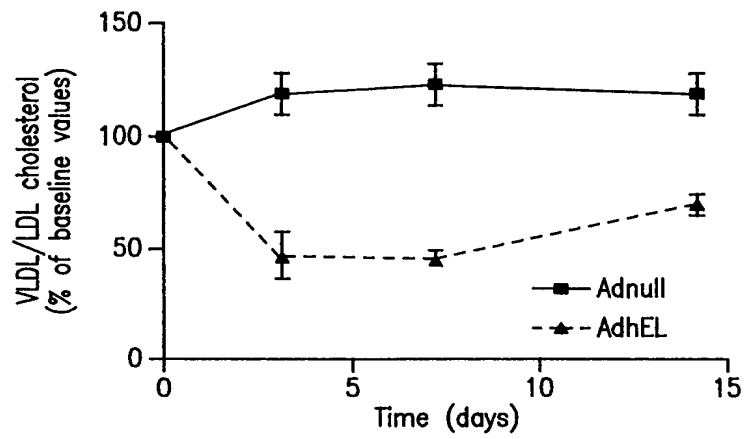
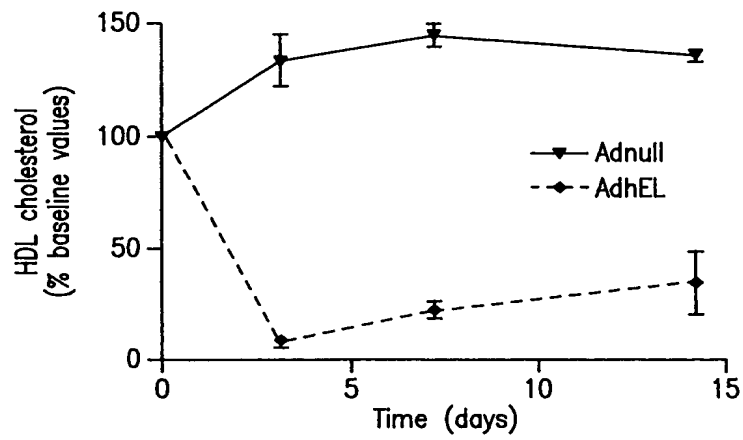


FIG. 21

**FIG. 22****FIG. 23**

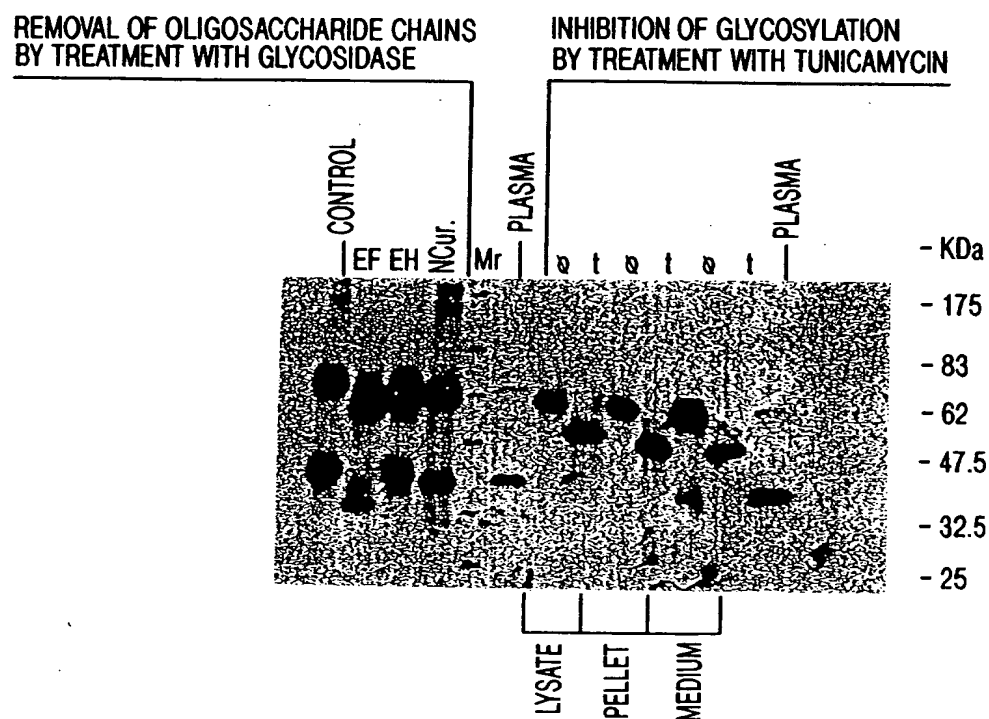


FIG. 24

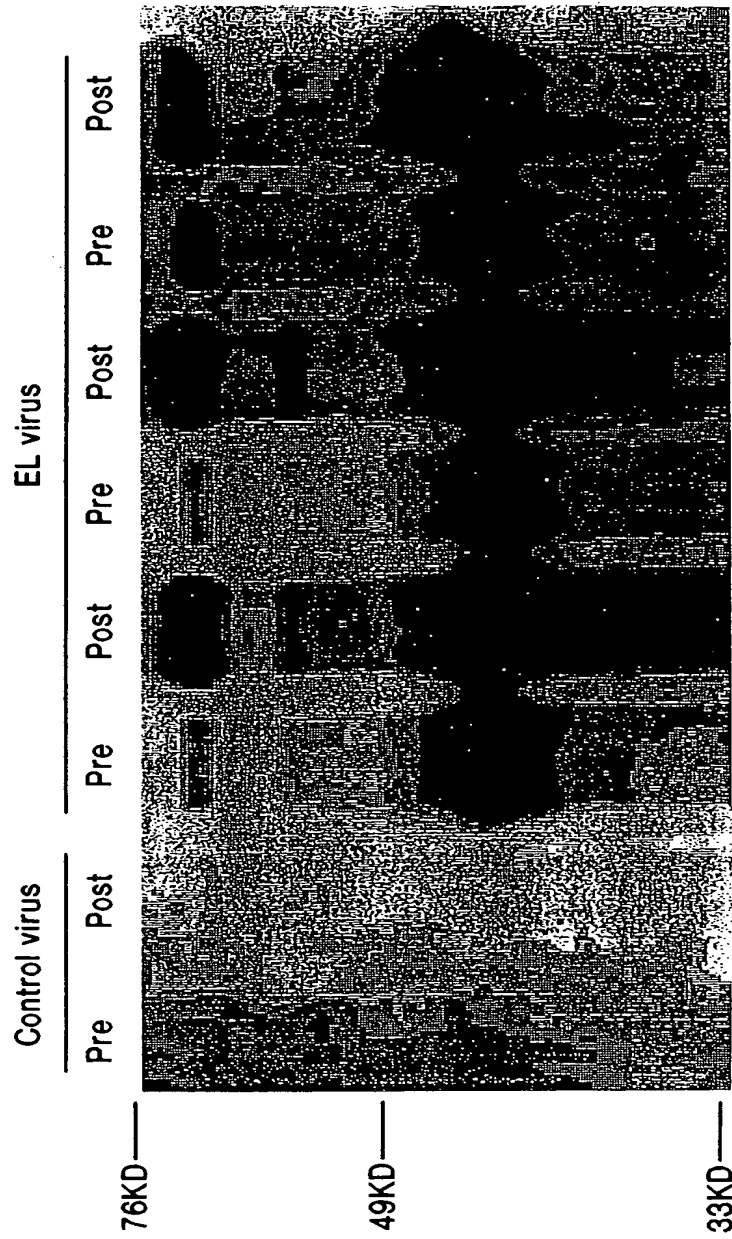


FIG. 25

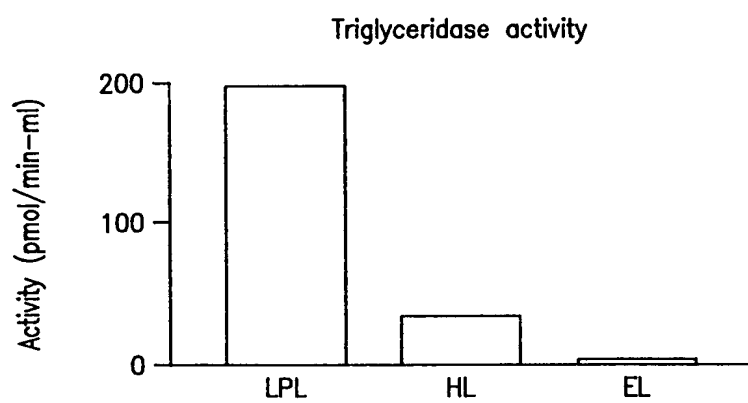


FIG. 26A

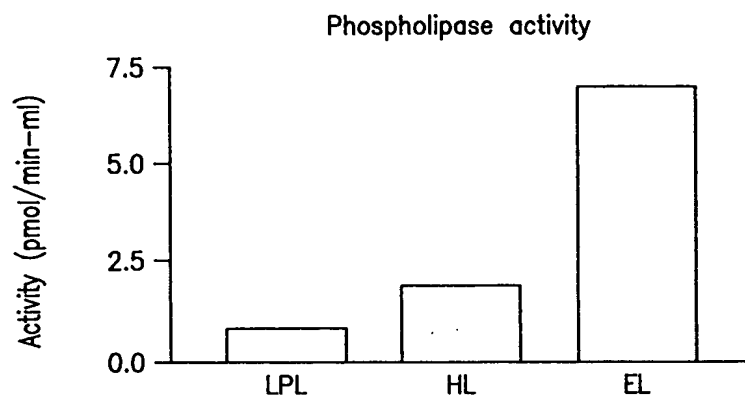


FIG. 26B

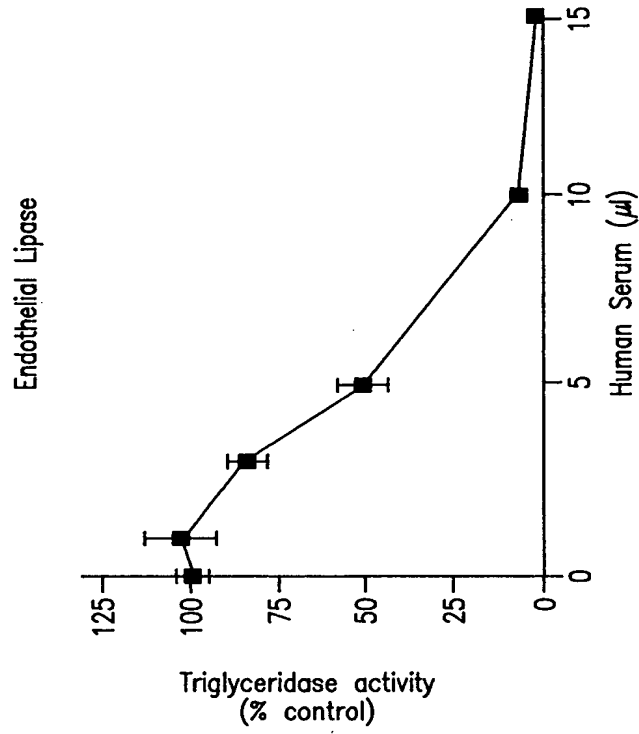


FIG. 27B

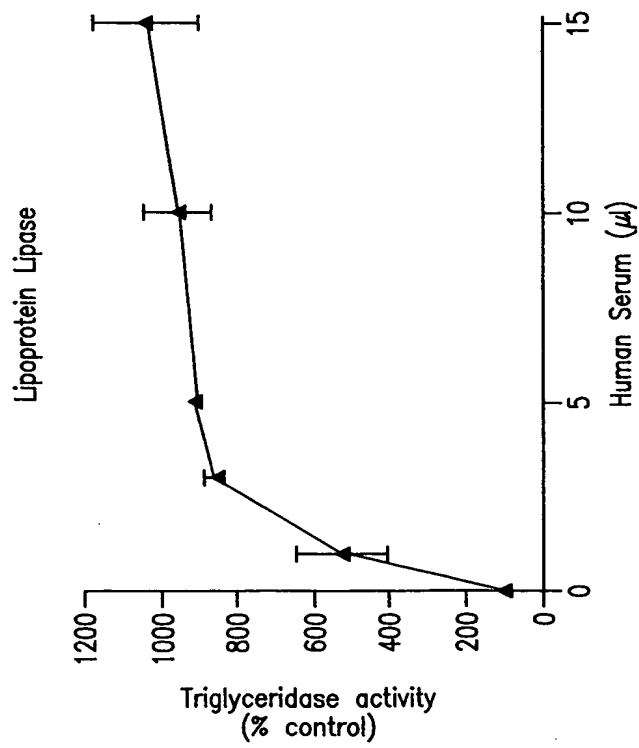


FIG. 27A

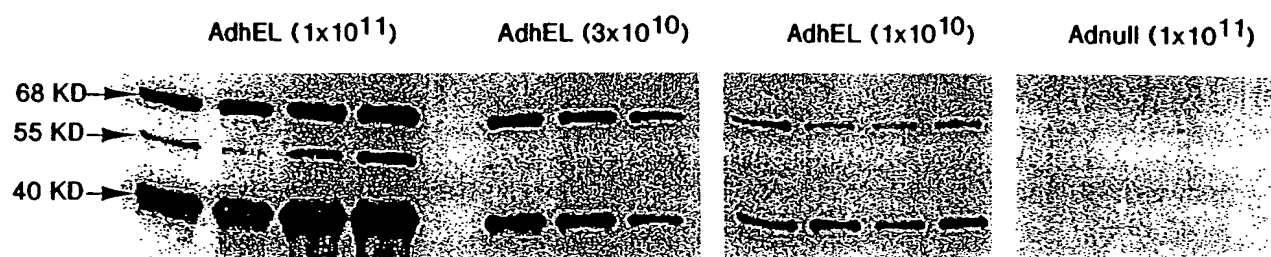


FIG. 28A

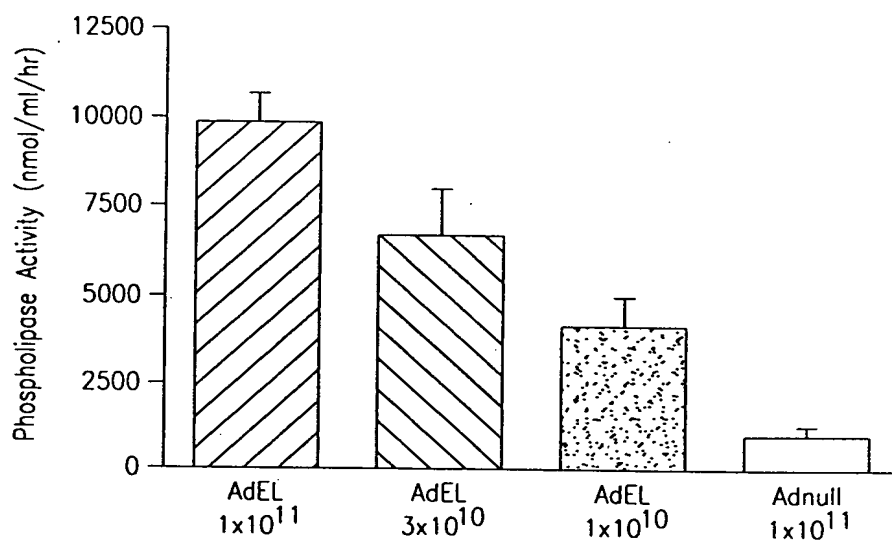


FIG. 28B

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